LineUp With Math™ Alignment
Michigan Mathematics
Grade Level Content Expectations v.6.04

Strand: Number and Operations

Understand derived quantities

Grade Level Content Expectation	***LineUp With Math™* Activities**
N.ME.07.01 Understand derived quantities such as density, velocity, and weighted averages.	--Identify and resolve distance, rate, time conflicts in air traffic control problems by varying plane speeds or changing plane routes.
N.FL.07.02 Solve problems involving derived quantities.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Understand and solve problems involving rates, ratios, and proportions

Grade Level Content Expectation	***LineUp With Math™* Activities**
N.FL.07.03 Calculate rates of change including speed.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
N.MR.07.04 Convert ratio quantities between different systems of units such as feet per second to miles per hour.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
N.FL.07.05 Solve simple proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b = c/d; know how to see patterns about proportional situations in tables.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

Strand: Algebra

Understand and apply directly proportional relationships and relate to linear relationships

Grade Level Content Expectation	***LineUp With Math™* Activities**
A.PA.07.01 Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

A.RP.07.02 Represent directly proportional and linear relationships using verbal descriptions, tables, graphs, and formulas, and translate among these representations.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.
A.PA.07.04 For directly proportional or linear situations, solve applied problems using graphs and equations, e.g., the heights and volume of a container with uniform cross-section, height of water in a tank being filled at a constant rate, degrees Celsius and degrees Fahrenheit, distance and time under constant speed.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
A.PA.07.05 Understand and use directly proportional relationships of the form y = mx, and distinguish from linear relationships of the form y = mx + b, b non-zero; understand that in a directly proportional relationship between two quantities one quantity is a constant multiple of the other quantity.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.